

# TEC\_GENETIX\_CCM



## JUNE

- Preliminary investigations
- Make bacteria competent
- Transform bacteria

## ORGANIZATION

### Human Practices | GenetiX | From May 31 to June 23

- International Legislations for Phthalates and Bisphenol-A in food and drink containers
  - United Nations
  - Constitutions
- National legislations for Phthalates and Bisphenol-A in food and drink containers
  - COFEPRIS
  - PROFECO
- Assessor from lawyers and marketing experts

### Laboratory Team | GenetiX | From May 31 to June 23

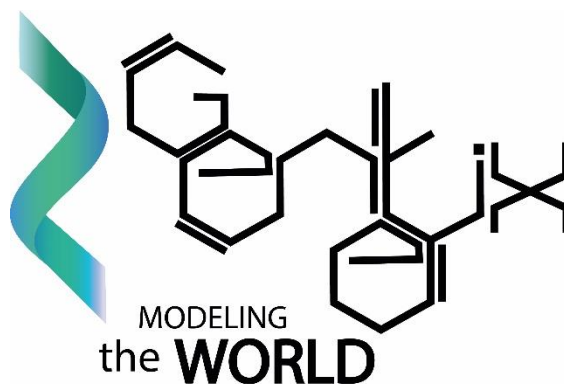
- Make competent bacteria with iGEM calcium chloride protocol
- Transform bacteria with both iGEM and Quiagen kits
- Order enzymes and protein synthesis to IDT with the sponsorship of iGEM

"IF ONLY THE HUMAN BODY  
COULD HANDLE TRAUMA AS  
WELL AS BIOTECHNOLOGY  
STOCKS DO." -ALEX BERENSON

## OBJECTIVES

Investigate further the impact of phthalates and bisphenol-A in the environment and society's health

Make a law proposal for the correct filtration and elimination of these two molecules on water bodies and treatment plants



MAY 27

Visit to IMEGEN!



## May 31

Objectives:

Human Practices:

9:00 – 12:00

- Have at least the name of three international laws that regulate the use of phthalates and bisphenol-A in food and drink containers.
- Investigate the foundations of the Mexican laws regarding the control of phthalates and bisphenol-A in food and drink containers.

Laboratory:

12:00 – 16:00

- Preparation of agar medium
- Teach new members the basic safety procedures and the protocols to follow that day

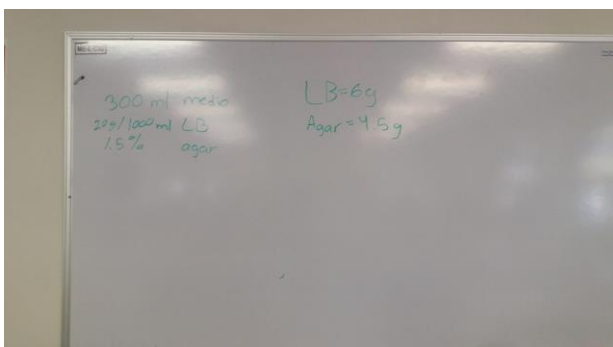
What really happened:

Human Practices:

- We couldn't find any clear foundation of Mexican laws in specifically phthalates and bisphenol-A used in food and drink containers. We decide to investigate deeper the next day.

Laboratory:

- The autoclave took way far than we expected, and we couldn't achieve the right concentration of agar in the medium in the first attempt.
- We actually leave the lab an hour after what we expected, but we had a lot of fun and the freshmen learn the correct and incorrect way of doing agar medium.



## JUNE 1

### Objectives:

8:00 – 12:00

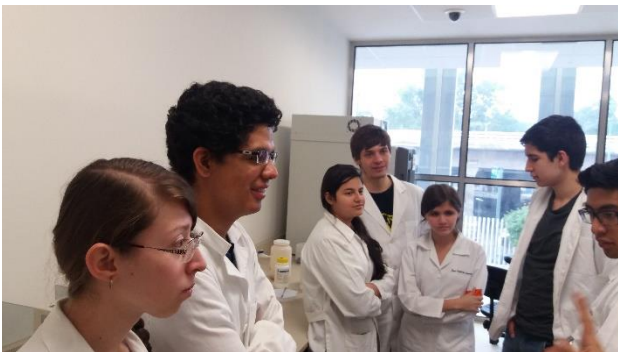
#### Human Practices:

- Investigate deeply the reasons and precedents for those countries to forbid or control phthalates and bisphenol-A
- Investigate the concept of at least two more international laws
- Investigate deeply the reasons and conflicts of interests in our country in order to avoid the implementations of those constitutional regulations

#### Laboratory:

10:00 – 16:00

- Clean up our material from last year
- Prepare 500 ml of SOC
- Prepare 1L of LV medium



### What actually happened:

#### Human Practices:

- We investigate the international laws and discovered that in some countries though, they exist, there are only a few regulations for the consumption in children. That means that we couldn't fully use it as a law model for our country
- Also, we find really both disturbing and dangerous products in which phthalates and bisphenol-A is found. Such as, sex toys, children toys and some dental dispositive that are also sold on our country and that eventually will end up in body waters poisoning people and the environment.

#### Laboratory:

- None of the electronic scales worked, so we literally took hours to measure all the components that we needed for the LV and SOC
- When we finally had the components, we mix them up and notice that they didn't solubilize which was extremely weird due to the high water solubility that they have. When we decide to investigate, it resulted to be methanol! So we had to so that all over again and then autoclave it. We finished about six o'clock and the laboratories responsible, didn't allow us to use the autoclave because it was too late.





## JUNE 2

### Objectives:

9:00 – 13:00

### Human Practices:

- Investigate deeply the laws founded.
- Investigate any initiative that Mexican citizens have had in order to regulate phthalates and bisphenol-A in any product.
- Start to model the our law proposal

### Laboratory:

12:00 – 14:00

- Cultivate two stocks of E.Coli we had from last year: DH5a and STBL $\beta$ . This is in order to check if they are suitable for transformation.



### What actually happened:

### Human Practices:

- We had a really productive day investigating in the common rooms at Tec CCM. We knew how to start our law proposal and even we had two new boys interested in joining us: Igor and Manuel.

### Laboratory:

- We spend the whole day at the autoclave. Triana arrived first and started to autoclave the SOC and LV medium from the day before, and the team joined her later. Then, they realized that they had to autoclave more materials and containers for later on, so they had to do it again. After leaving two LV tubes and two Petri boxes with each E.Coli strain in the incubator, we realize that it was four o'clock.



## JUNE 7

### Objectives:

#### Human practices:

9:00 – 13:00

- Start the preliminary foundations of our law proposal
- Search for experts in order to interview and personally ask for an assessment

#### Laboratory:

9:00 – 13:00

- Investigate and find an estrogen promotor compatible to our proteins
- Start the theory framework of our bioremediator.

### All divisions:

13:00 – 14:30

- Receive Ana Sifuentes, the coordinator of Latin America in iGEM 2016 and extrenalize all doubts and ideas.

### What actually happened:

- We received Ana, and she hear our ideas and make her suggestions
- She suggested that we also turn our bioremediator into a certification that enterprises could acquire
- Also we had a great time with all her stories and ours too!
- We invited Ana for lunch and though it started to rain, we had a really good time.



## JUNE 9

Objectives:

Human Practices:

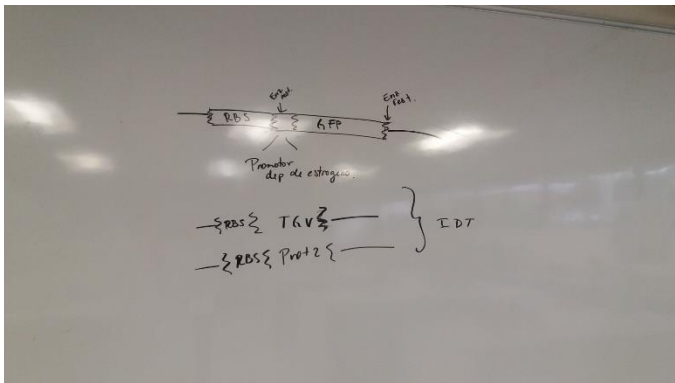
10:00 – 13:00

- Develop deeply the law proposal taking as a guide the fundamentals of the other international laws.
- Start planning a campaign that comprises our project's solution.

Laboratory:

14:00 – 15:00

- Grow in SOC medium STBL $\beta$  and DH5a strains.





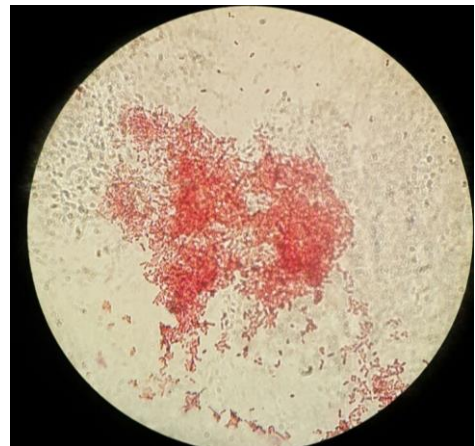
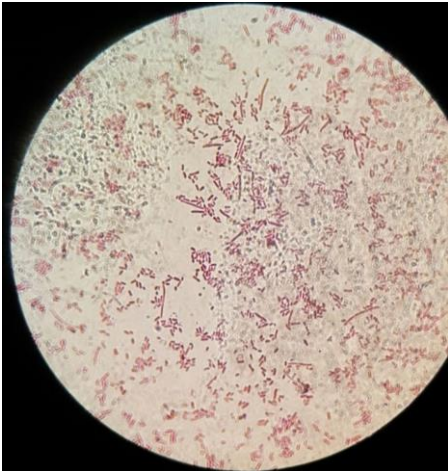
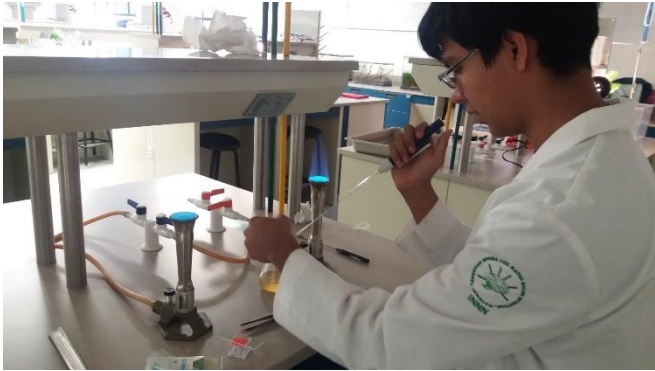
**JUNE 10**

Objectives:

Laboratory:

11:00 – 12 :00

- Gram staining of the E.Coli strains in SOC and LV medium.





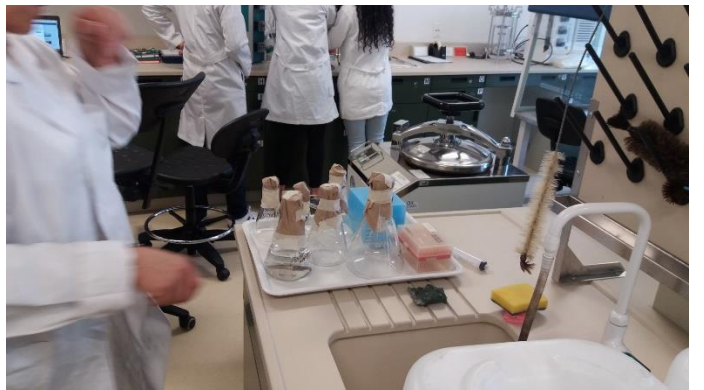
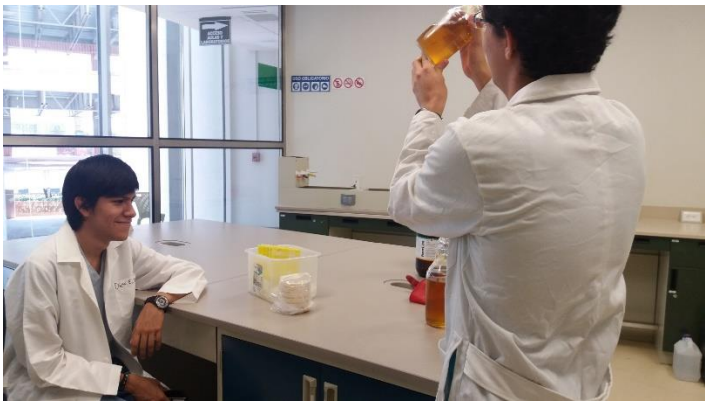
**JUNE 14**

Objectives:

Laboratory:

11:00 – 15:00

- Make glycogen stocks of the growth strains of E.Coli DH5a and STBL $\beta$  and refrigerate under  $-80^{\circ}$



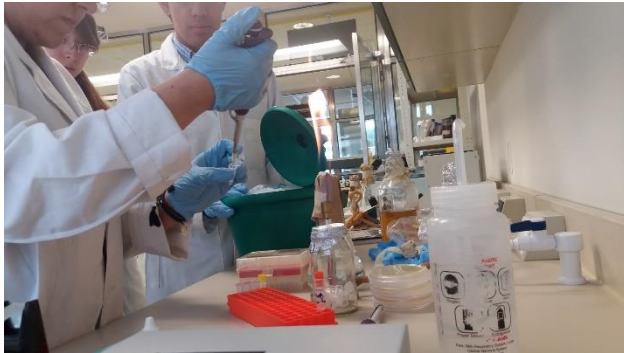
## JUNE 15

Objectives:

Laboratory:

11:00 – 15:00

- Transform the bacteria strains inserting GFP



## JUNE 16

Objective:

Laboratory:

10:00 – 17:00

- Make magnesium chloride, calcium chloride and glycerol solutions for the competent bacteria protocol.



## JUNE 17

Objectives:

Human Practices:

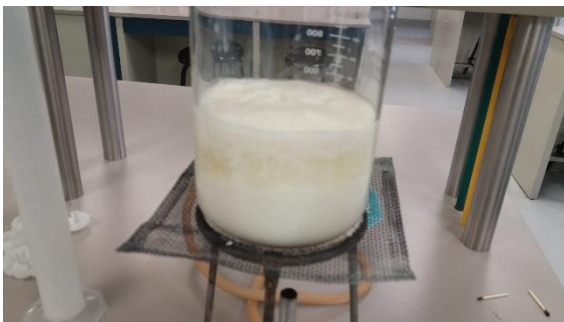
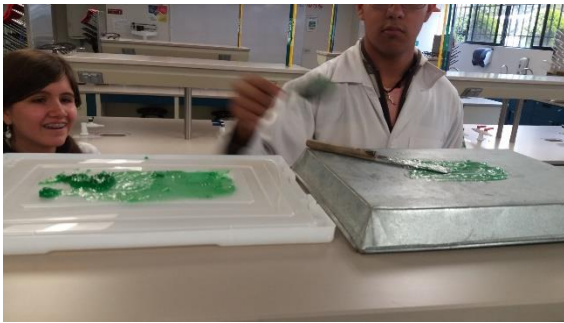
11:00 – 14:00

- Design the laboratory practice and tangible product for high schools presentations.

Laboratory:

11:00 – 14:00

- Help Human Practices with biodegradable polymers made with milk and corn flour for high school presentations.





## JUNE 20

Objectives :

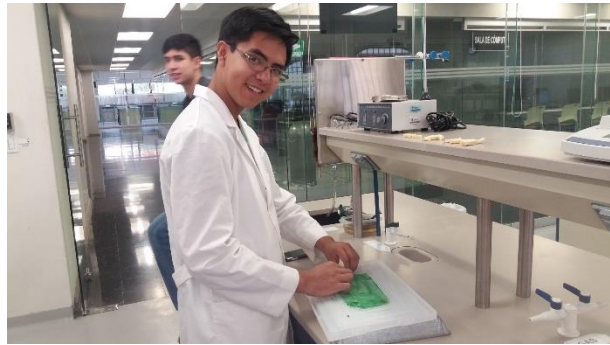
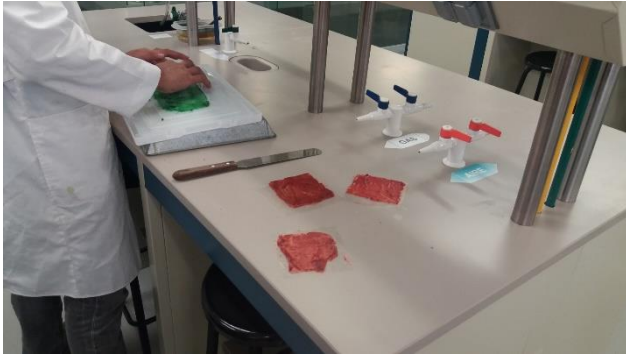
Laboratory :

- Check the milk and corn flour polymers for the high school presentation.
- Fix the practice protocol for high school students.

Human Practices:

11:00 -15:00

- Make a powerpoint presentation of the project and the problem we want to solve within our community.
- Make a date for the presentation in the high school, Heraldos de México.



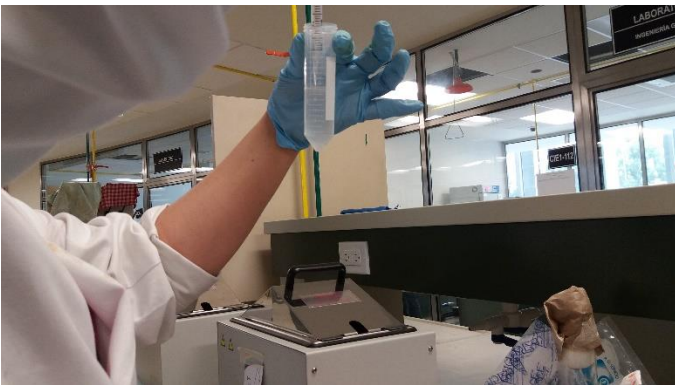
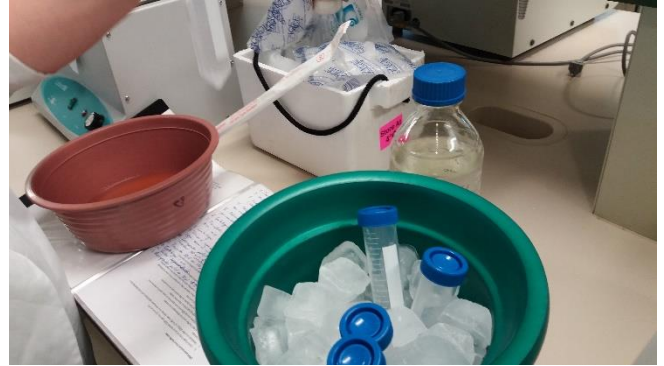
**JUNE 21**

Objectives:

Laboratory:

8:00 – 20:00

- Make bacteria competent with calcium chloride protocol.



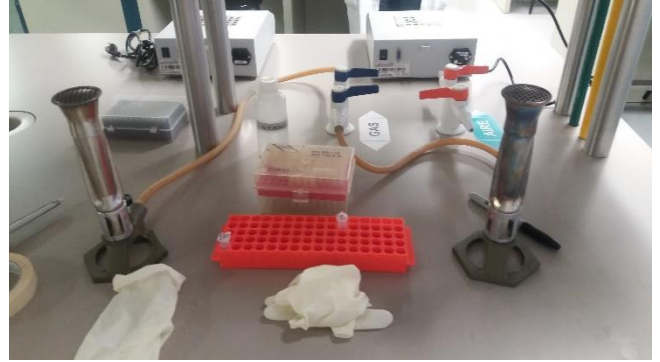
**JUNE 23**

Objectives:

Laboratory:

11:00 – 14:00

- Striate the Petri dishes with agar medium in order to grow transformed bacteria at different concentrations of the Quiagen transformation kit.





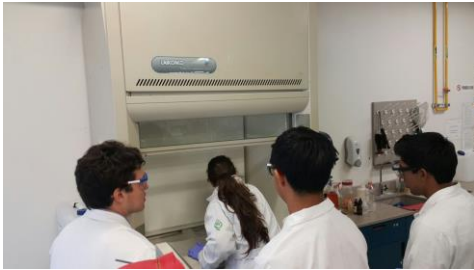
## JULY 1 to 3

Objectives:

Laboratory:

8:00 – 16:00

- Take the safety training that by LEI
- Learn and absorb all the important information to assure the safety of both the team and the project



## JULY 5

Objectives:

Human Practices:

11:00 – 15:00

- Teach six groups from different generations of the high school, Heraldos de México, the process to make milk and corn flour polymers in order to reduce the plastic consumption
- Show and expose our project to the kids, but mainly focused in the risks of the phthalates and bisphenol-A consumption and persuading them to reduce their plastic consumption.





## JULY 19

Objectives:

Human Practices and all divisions:

11:00 – 18:00

- Launch our green campaign against phthalates and bisphenol—A
- Interview people on their point of view of the problematic
- Inform our project and introduce the law proposal to the public
- Make statistics of the acceptance of our proposals
- Clean our streets of garbage, not only plastic but also any kind of it.



## SEPTEMBER 30

Update: IDTs, synthesized parts just arrived after almost one month of waiting for them, we are going to start working on lab this Monday.



## **OCTOBER 4**

Objective :

Laboratory:

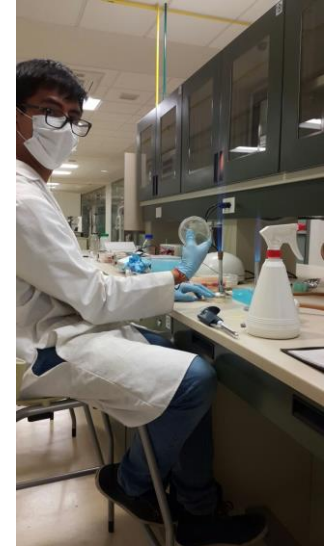
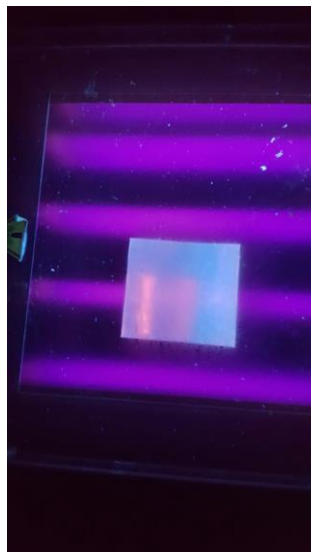
- Design the working protocols that we will have to accomplish in less than three weeks to achieve our project goal

## **OCTOBER 5 – 10**

Objective:

Laboratory:

- Make competent again the E.Coli strains and transform them
- Make alginate pearls in order to filtrate the water with our project



## OCTOBER 11-22

Objective:  
All divisions:

- Give the last details to the project and prepare for the wiki freeze

- Prepare for the Jamboree and have a lot of fun in Boston!